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ABSTRACT

Many students in today's high schools choose courses and work experiences in an unplanned, aimless manner that often results in limited career options and undeveloped potential. Innovative educators across the nation have responded by restructuring schools around career pathways, which are integrated, multiyear sequences of career guidance, courseware, and work-based learning experiences that enable students to explore a variety of career choices and provide a context for learning. Schools organized around career pathways allow students to use their experiences in the classroom and the workplace to decide on a career and understand the experience, skills, and education/training required to be successful in the workplace. Restructuring schools to make career pathways available to all students requires strategies that address the following issues: defining career pathways; career guidance and planning; curriculum integration; academic and occupational standards; assessment; time/scheduling; links to postsecondary institutions; links to employers; and connecting activities. The career pathways programs of Central Valley High School in Veradale, Washington, and Roosevelt Renaissance High School in Portland, Oregon, are two examples of effective practices in grafting career pathways into school-to-work systems. (Contains 5 references and an annotated list of eight resource organizations to contact for further assistance and a list of five publications.) (MN)

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★RESOURCE BULLETIN

MARCH 1997

Career Pathways in School-to-Work Systems

Many students in today's high schools choose courses and work experiences in an unplanned, aimless manner, often resulting in limited career options and undeveloped potential. Innovative educators across the nation have responded by restructuring schools around career pathways. A career pathway is an integrated, multi-year sequence of career guidance, coursework, and work-based learning experiences that enables students to explore a variety of career choices and provides a context for learning. Schools that are organized around career pathways give students an opportunity to use their experiences in the classroom and the workplace to help determine what they might or might not want to do, and gain a better understanding of the kinds of experience, skills, and education and training they will need to be successful in the workplace.

The idea that students can begin to develop an initial career direction which provides a purpose and context for learning can motivate students, increase their achievement, and smooth the transition from school to work. But restructuring a school around career pathways is not a simple process. Restructuring a school is, by definition, a comprehensive reform requiring substantial departures from many conventional practices. It involves collaborative planning, staff development, and implementation strategies that encompass a wide range of school structures and processes. This bulletin will lay out the key issues that should be addressed in restructuring a school around pathways, and organizations and publications that can provide further information.

Developing and Implementing Career Pathways

Restructuring schools to make career pathways available to all students requires strategies that address the following issues:

Defining pathways. Breadth and intensity are the two major variables that must be addressed in defining career pathways. The breadth of a pathway, or the range of occupations in a pathway, will help determine the types of courses and work-based learning experiences a student will undertake in the pathway. Most schools that have restructured around pathways have included a broad set of career options within each pathway to allow students flexibility and a variety of occupational choices. For example, a heath care occupations pathway provides students with the foundation of skills necessary in a variety of occupations, such as laboratory technicians, pharmacists, registered nurses, and physicians.

The intensity of a pathway can be described in three general levels: low, medium, and high. Low

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intensity pathways require little integration of academic and career-related instruction, and the focus remains on academic subjects. Work-based learning is often limited to short-term worksite visits which emphasize observation and career exploration.

Medium intensity pathways include at least a two-year sequence of study with a minimum of two integrated courses per year, and a range of worksite/community experiences. These experiences are guided by a learning plan with regular mentoring by worksite staff. Integration of pathway curricula occurs periodically across worksite and classroom boundaries, and across at least two subject areas within the school-based component.

High intensity pathways, often found in career academies and magnet high schools, entail an integrated program of study consisting of a three- to four-year sequence of curricula, with a minimum of three courses per year. They include at least two core academic subjects which integrate academic and career-related instruction, and feature a project-based approach to learning. Work-based learning elements are characterized by a multi-year progression of worksite and community learning experiences, guided by a learning plan with regular mentoring by worksite staff. These pathways are approximately 500 hours in duration, with regular integration of worksite and academic learning.

The intensity of work-based learning and curriculum integration in a pathway should remain flexible, depending upon the individual goals of students. Some students may want to maintain a focus on academic coursework, and maintain a limited set of work-based learning experiences. Others may choose a more applied, work-based curriculum with a heavier schedule of technical courses. Pathways must provide students the opportunity to combine varying proportions of academic courses, technical skill development, and structured work experience, while maintaining options for postsecondary education.

Career guidance and planning. Career pathways require intensive career guidance and planning to ensure that students are equipped to make an informed decision in choosing a pathway. Initial aptitude tests, career exposure and awareness activities, labor market information, and the advice of counselors, parents, teachers, and employers can all help students choose a pathway that fits their interests, abilities, and goals. One way in which schools have helped students choose and progress through a career pathway is through individual education and career plans. These plans are developed with the assistance of counselors, parents, teachers, and employers to explore a student's strengths, interests, and needs. This process can help students choose a pathway and design a progression of school-based and work-based learning experiences. The plans are monitored and periodically revisited to account for changes that often occur as students progress through a pathway.

Curriculum integration. An integrated curriculum is an essential component of any career pathway. Many school-to-work systems use pathway teams that include school administrators, academic and occupational teachers, employers, and union representatives to integrate curricula around occupational clusters. Elements of an integrated curriculum include contextual approaches to instruction, applied learning, team teaching, project-based instruction, and structured work-based learning that is linked to classroom instruction.

Academic and occupational standards. Both academic and skill standards provide students

clearly articulated goals that define the knowledge and skills necessary within a pathway. Building pathways around a framework of academic standards can encourage all students, regardless of their chosen pathway, to achieve the academic competencies necessary for further education and employment. Skill standards measure competence in a set of skills necessary to perform within a cluster of occupations that make up a pathway, providing students with information regarding the types of skills they will have to master in that pathway.

Assessment. The contextual and work-based nature of pathways curricula requires innovative assessments to measure student performance accurately. Assessments in career pathways should measure not only a student's competency in academic subjects, but also the ability to apply these skills. Portfolios and other forms of authentic assessments augment traditional assessments, providing students an opportunity to demonstrate their knowledge and skills in the school and the workplace.

Time/scheduling. Building career pathways often requires significant changes in schedules to accommodate new forms of learning. Work-based learning activities and other new learning processes in career pathways often require course schedules that do not conform to traditional time periods. They may involve longer time blocks during the day or breaking up course curricula into different time blocks over a semester or year. Larger blocks of time are also beneficial to teachers, providing time to work on curricula, team teaching strategies, and new instructional techniques.

Links to postsecondary institutions. Linkages to postsecondary institutions are essential components of career pathways. A high school diploma is often only a stepping stone in a career pathway, and articulation agreements and other partnerships between high schools and postsecondary education institutions can provide students with options to continue on their pathway to further education.

Links to employers. The number and quality of links to the business community directly affect the availability of work-based learning opportunities for students in career pathways. Employers also play a major role in the development of integrated curricula, skill standards, and work-based assessments in career pathways.

Connecting activities. The implementation of career pathways requires a variety of connecting activities that support school-to-work systems, such as recruiting employers, matching students with work-based learning opportunities, and providing the day-to-day administration and management. Many school-to-work systems have used an intermediary organization to act as a liaison among students, employers, schools, parents, and community partners.

Effective Practices

Central Valley High School in Veradale, Washington, replaced a traditional school structure that tracked students into college prep, general education, and vocational education with Student Career Opportunity Paths in Education (SCOPE). The SCOPE program organizes curriculum, career guidance, community resources, and the school environment around student career aspirations. School staff, working

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with specialists in occupational analysis, identified six career pathways which would serve as the context for individualized education at Central Valley. The pathways were selected to reflect the strengths of the existing curriculum, the regional economy, and state educational requirements. They are: business marketing and management; business communications and operations; technology in society; engineering, science, and medical careers; creative and applied arts; and social, health, and personal services.

Students are introduced to the six career pathways in the eighth grade. Counselors use career interest assessments to help students make an initial career path selection before entering Central Valley. A five-year education plan is prepared which guides students through high school and into the first year of postsecondary education. Students' interests and education plans are revisited and refined each year.

Students in each career path take required academic courses and are provided with a variety of career-relevant elective courses. These courses reflect the broad range of possibilities within each career path, and are offered at progressively more advanced levels. Elective courses are often common to different career paths, and teachers must be able to apply each lesson to a variety of career interests. A lesson on the use of radio, for example, might consider radio advertising, radio as a communications tool for the military, public service uses, and technological developments, depending on the career choices of students in the class.

Roosevelt Renaissance High School in Portland, Oregon, has designed an entirely new four-year curriculum based on career pathways. The six pathways are: arts and communication; business and management; health occupations; human services; manufacturing and engineering technologies; and natural resources. Pathway teams, consisting of teachers, administrators, counselors, and employers, determine the courses offered to students within the pathway, develop curricula for the courses, allocate funds, and periodically review and revise pathway curricula.

Pathways in Roosevelt begin in the freshman year. Students spend one class period a day, called Freshmen Survey, exploring the six different pathways, building their decision-making capacity and self-esteem, and improving workplace readiness skills. Freshmen are also exposed to a job shadowing experience, visiting employers to find out more about specific career areas and what is expected in the workplace. At the end of the year, ninth graders chose one of the six pathways as the focus for their education experience at Roosevelt.

As students progress through school, career pathways take an increasingly central role in the curriculum. In the tenth grade, students break into six sections corresponding to the six pathways to take the Sophomore Opportunity Pathway class, a period directly focused on the career group. Applied academic courses begin integration into the pathway, using real-life situations in the career area to contextualize learning.

Students begin worksite internships in their junior year. Internships place students in jobs related to their pathways, providing an opportunity to test skills learned in the classroom and to validate their career interests. Applied academic courses are a key element of the pathways in the junior year, and advanced academic classes are available for students whose career major or college goals require them.

Work experience often intensifies in the senior year, and the senior pathways class provides even more specialized, work-based activities and information for students about to embark on careers or advanced studies. Twelfth-grade students earn a Certificate of Advanced Mastery (CAM) in their pathway. The CAM certifies mastery of skills needed to achieve success in a broad career area, including rigorous academic standards.

FOR MORE INFORMATION ABOUT THIS TOPIC, CONSULT THE FOLLOWING RESOURCES:

Effective Practices

Central Valley High School. Larry Parsons, Principal, 821 Sullivan Road, Veradale, WA 99037 ★ (509) 922-6750.

Roosevelt Renaissance High School. Janet Warrington, Project Coordinator, 6941 N. Central, Portland, OR 97203 ★ (503) 280-5260.

Organizations

California Partnership Academies are career pathway programs based in public high schools in California. They are structured as "schools-within-schools," usually enrolling about 100-150 students beginning in tenth grade. The academies are based on school-business partnerships, and prepare students for further education and work in a given career field or industry. Their curriculum integrates academic subjects with the career field, and prepares students for work upon high school graduation, entry to technical training programs, and entry to four-year colleges. Susan Cummins-Tidyman, Consultant, California Department of Education, 77 Santa Barbara Rd., Pleasant Hill, CA 94523 ★ (510) 942-3413.

Center on Organization and Restructuring of Schools has studied how organizational features and structures of schools can be changed to increase the intellectual and social competencies of students. University of Wisconsin-Madison, School of Education, Wisconsin Center for Education Research, 1025 W. Johnson Street, Madison, WI 53706 ★ (608) 263-7575.

The Council of Chief State School Officers is a nonprofit membership organization of all heads of state public education departments across the nation, responding to and providing leadership on a broad range of education issues. One Massachusetts Avenue, NW, Suite 700, Washington, DC 20001-1431 ★ (202) 408-5505.

Jobs for the Future (JFF) is a non-profit organization that conducts research, provides technical assistance, and proposes policy innovations on the interrelated issues of workforce development, economic development, and learning reform. JFF has worked with a variety of schools across the nation, helping them to design and implement school-to-work initiatives that include restructuring schools around career pathways. One Bowdoin Square, Boston, MA 02114 ★ (617) 742-5995.

National Association of Secondary School Principals provides a wide range of workshops and technical services to secondary school principals, including team teaching, alternative schedules, and school restructuring. 1904 Association Drive, Reston, VA 22091-1537 ★ (703) 860-0200.

National Center for Research in Vocational Education (NCRVE) works toward fulfilling its mission to strengthen education to prepare all individuals for lasting and rewarding employment and lifelong learning. NCRVE has funded a number of projects on career pathways and curriculum integration. University of California at Berkeley, 1995 University Avenue, Suite 375, Berkeley, CA 94704 ★ (510) 642-4004 ★ Internet: http://vocserve.berkeley.edu/

Pro-Tech is a multi-year school-to-work partnership between Boston's Private Industry Council, the Boston Public School System, and area employers that combines school-based and work-based classroom learning experience with a paid work experience to prepare students for occupations in six industries. Students are selected in the 10th grade and follow a sequence of integrated school- and work-based learning activities through at least two years of postsecondary education. Boston Private Industry Council, 2 Oliver Street, Boston, Massachusetts 02109 ★ (617) 423-3755

Public/Private Ventures has developed a Work Matters curriculum package that uses interactive lessons to get students talking about their work and life experiences, and what they would like to do in the future. Work Matters uses experiential strategies such as case studies and portfolio assessments, and takes students into the community and the workplace to develop career plans. 2005 Market Square, Suite 9000, Philadelphia, PA 19103 ★ (215) 592-9099.

Publications

Hamilton, Stephen F., and Mary Agnes Hamilton. *Opening Career Paths for Youth: What Can Be Done? Who Can Do It?* Washington, DC: American Youth Policy Forum, 1994.

Newman, Fred M., and Gary G. Wehlage. *Successful School Restructuring.* Madison, WI: Center on Organization and Restructuring of Schools, 1995.

New York State Department of Education. *Education That Works: Creating Career Pathways For New York State Youth.* Albany, NY: New York State Department of Education, 1992.

Oregon Department of Education. *Roosevelt Renaissance 2000: Creating a School-Wide Work-Based Learning Model.* Salem, OR: Oregon Department of Education, 1995.

Prescott, Carolyn, A. *Education and Work: Toward An Integrated Curriculum Framework.* Waco, TX: Center for Occupational Research and Development, 1996.

For additional information, please contact:

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